

REMARKS

Claims 4 and 14 through 40 have been previously canceled. Claims 1 through 3, 5 through 13, and 41 remain in the application.

Claim 41 has been allowed.

Claims 1 through 3 and 5 through 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Itoh et al. (U.S. Patent No. 5,720,803) in view of Xu et al. (U.S. Patent No. 5,821,286). Applicants respectfully traverse this rejection.

U.S. Patent No. 5,720,803 to Itoh et al. discloses a biodegradable cellulose ester composition and article. The biodegradable cellulose ester composition may be a composition comprising low-substituted cellulose ester alone or a composition comprising a plurality of cellulose esters varying in the degree of substitution but containing not less than 10 weight % of the low-substituted cellulose ester. The compositions contain additive ingredients that can be classified into a composition comprising the cellulose ester and aliphatic polyester. The aliphatic polyester includes, for example, polyesters formed by dibasic acids with glycols, polycaprolactones and other polyesters. The dibasic acid includes dicarboxylic acids of about 2 to 14 carbon atoms, for example saturated aliphatic dicarboxylic acids such as oxalic acid, succinic acid, adipic acid, sebacic acid, azelaic acid, sebacic acid, etc. and unsaturated aliphatic dicarboxylic acids such as fumaric acid, itaconic acid and so on. The glycol includes glycols of about 2 to 12 carbon atoms such as ethylene glycol, diethylene glycol, triethylene glycol, 1,2-propanediol, dipropylene glycol, 1,3-butanediol, 1,4-butanediol, 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol, neopentyl glycol, 3-methyl-1,5-pentanediol and so on. The dibasic acid and glycol can be used independently or in combination. Itoh et al. does not disclose a second component being a natural polymer and a third component being a thermoplastic polyester.

U.S. Patent No. 5,821,286 to Xu et al. discloses biodegradable polyester and natural polymer compositions and films therefrom. Biodegradable films include two biodegradable components. One component preferably is starch while the other component is a water insoluble, synthetic polymer, preferably a hydroxy-functional polyester. Starches are preferred for use as the natural polymers, particularly due to ready availability and low cost. Thus, starch is a low-cost and abundant natural polymer composed of amylose and amylopectin. Xu et al. does not disclose a third component being a thermoplastic polyester.

In contradistinction, claim 1 claims the present invention as a polymer composition including a first component being an adipic polyester, a second component being a natural polymer, and a third component being a thermoplastic polyester. The first component, second component and third component are combined to form the polymer composition.

The United States Court of Appeals for the Federal Circuit (CAFC) has stated in determining the propriety of a rejection under 35 U.S.C. § 103, it is well settled that the obviousness of an invention cannot be established by combining the teachings of the prior art absent some teaching, suggestion or incentive supporting the combination. See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. 929 (Fed. Cir. 1984). The law followed by our court of review and the Board of Patent Appeals and Interferences is that “[a] prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.” In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976). See also In re Lalu, 747 F.2d 703, 705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984) (“In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be

sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification.”)

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 1. Specifically, Itoh et al. ‘803 merely discloses a biodegradable cellulose ester composition and article in which a composition comprises cellulose ester and aliphatic polyester. Itoh et al. ‘803 lacks a second component being a natural polymer and a third component being a thermoplastic polyester. In Itoh et al. ‘803, the cellulose ester is not a natural polymer. Contrary to the Examiner’s opinion, a cellulose ester is not a thermoplastic polymer. The Examiner may not, because he/she doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F. 2d 1011, 154 U.S.P.Q. 173 (C.C.P.A. 1967). As such, in Itoh et al. ‘803, there is no third component being a thermoplastic polyester.

Xu et al. ‘286 merely discloses biodegradable polyester and natural polymer compositions and films therefrom in which one component is a starch while the other component is a water insoluble, synthetic polymer, preferably a hydroxy-functional polyester. Xu et al. ‘286 lacks a third component being a thermoplastic polyester. As such, there is no suggestion or motivation in the art to combine Itoh et al. ‘803 and Xu et al. ‘286 together.

It is not sufficient for an Examiner merely to state that one reference teaches several of the limitations of a claim and another teaches several limitations of a claim to support a rejection based on obviousness. This approach ignores a cornerstone principal of patent law:

That all elements of an invention may have been old (the normal situation), or some old and some new, or all new, is however, simply irrelevant. Virtually all inventions are combinations and virtually are combinations of old elements. Environmental Designs v. Union Oil Co. of Cal., 713 F.2d 693, 698 (Fed. Cir. 1983) (other citations omitted).

Here, the Itoh et al. '803 and Xu et al. '286 references, skirt around, but do not suggest the claimed invention *as a whole*. The analysis advanced by the Examiner here focuses on the obviousness of substitutions and differences instead of on the invention, *as a whole*, and is an over-simplification of the difficult determination of obviousness. See, Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1383 (Fed. Cir. 1986).

The present invention sets forth a unique and non-obvious combination of a polymer composition that is biodegradable and allows molded items to be formed such as planter pots, disposable razors, cutlery, pen casings, etc., with little concern of softening at high temperatures of up to and more than 100°C. The references, if combinable, fail to teach or suggest the combination of a polymer composition including a first component being an adipic polyester, a second component being a natural polymer, and a third component being a thermoplastic polyester, wherein the first component, second component and third component are combined to form the polymer composition as claimed by Applicants.

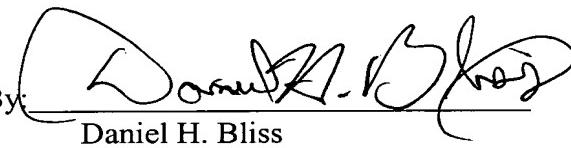
Further, the CAFC has held that “[t]he mere fact that prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification”. In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). The Examiner has failed to show how the prior art suggested the desirability of modification to achieve Applicants’ invention. Thus, the Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 1 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. § 103.

Obviousness under § 103 is a legal conclusion based on factual evidence (In re Fine, 837 F.2d 1071, 1073, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988), and the subjective opinion of the Examiner as to what is or is not obvious, without evidence in support thereof, does not suffice. Since the Examiner has not provided a sufficient factual basis, which is supportive of his

position (see In re Warner, 379 F.2d 1011, 1017, 154 U.S.P.Q. 173, 178 (C.C.P.A. 1967), cert. denied, 389 U.S. 1057 (1968)), the rejections of claims 1 through 3 and 5 through 13 are improper. Therefore, it is respectfully submitted that claims 1 through 3 and 5 through 13 are allowable over the rejections under 35 U.S.C. § 103.

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

Respectfully submitted,

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